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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/813,217

03/30/2004

Donald R. Snow JR.

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08/29/2006

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EXAMINER

HOPKINS, ROBERT A

ART UNIT

PAPER NUMBER

1724

DATE MAILED: 08/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/813,217

Applicant(s)

SNOW, DONALD R.

Examiner

Robert A. Hopkins

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-21 is/are allowed.
- 6) ☒ Claim(s) 46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 46 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Jones(6729359).

Jones teaches an inert gas generating system for generating inert gas on a vehicle having a fuel tank, the system comprising an inlet for receiving a flow of gas having a nitrogen component and an oxygen component from a gas source, a heat exchanger downstream from the inlet and in fluid communication with the inlet for cooling gas received from the inlet, and a gas separation module(18) downstream from the heat exchanger and in fluid communication with the heat exchanger for separating gas received from the heat exchanger into a nitrogen enriched gas flow and an oxygen enriched gas flow, the gas separation module being adapted to generate a flow rate of the nitrogen enriched gas flow of about 40 pounds per minute with an oxygen content less than or equal to about 9.8 percent by volume.

***Allowable Subject Matter***

Claims 1-21 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Amended claims 1 and 18 include subject matter which was persuasively argued by applicant as overcoming the claim rejections to Jones. Claims 2-17 depend on claim 1 and hence are also allowed. Claims 19-21 depend on claim 18 and hence are also allowed.

### ***Response to Arguments***

Applicant's arguments filed 8-15-06 with regards to claim 46 have been fully considered but they are not persuasive.

Applicant argues Jones does not disclose a gas separation module adapted to generate a flow rate of the nitrogen-enriched gas flow of about 40 pounds per minute. Applicant argues the reference discloses a module adapted to generate a nitrogen-enriched gas flow only as high as four pounds per minute, and moreover there is no motivation for modifying the disclosed module to increase the flow rate 1000 percent.

Examiner notes page 13 of the current specification recites "In one embodiment, the inert gas system 50 illustrated in Figs. 3 and 4 delivers a multiplicity of flow rates ranging from about 1 pound per minute(lb/min) to about 40 lb/min, and each unique flow rate has an oxygen concentration of less than about 9.8 percent by volume". Examiner also notes that the gas separation module in one embodiment can be a membrane type separator. Examiner notes column 3 lines 10-15 of Jones recites "ASM 18 provides a total flow in the range of approximately 2-4 lbs/min. Depending on aircraft requirements or other system limitations, other sizes of ASM may be selected. Using conventional hollow-fiber technology, ASM 18 separates the air into oxygen-enriched air(OEA) and nitrogen-enriched air(NEA)." Therefore, examiner respectfully submits that because

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the gas separation module of the current invention and Jones are both membrane type separators, and the current specification states that the flow rates range from about 1 pound/min to about 40lb/min, then the membrane separator for ASM of Jones also generates a flow rate of nitrogen enriched gas of about 40 pounds per minute.

Examiner notes that since the claim is directed to a structure, then the structure only needs to be capable of generating the required flow rate for anticipation. As noted, because the gas separation module of the current invention is the same type of separator(membrane) as the gas separation module of Jones, and applicant states that the flow rate has a range up to 40lb/min, then the claim is anticipated because the gas separation module of Jones is clearly adapted to generate a flow rate of nitrogen enriched gas flow of about 40 pounds per minute.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

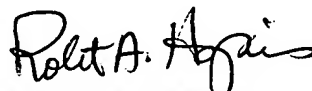
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Hopkins whose telephone number is 571-272-1159. The examiner can normally be reached on Monday-Thursday, 7:30am-5pm, every Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rah  
August 22, 2006

  
**ROBERT A. HOPKINS**  
**PRIMARY EXAMINER**  
*17.4.1724*